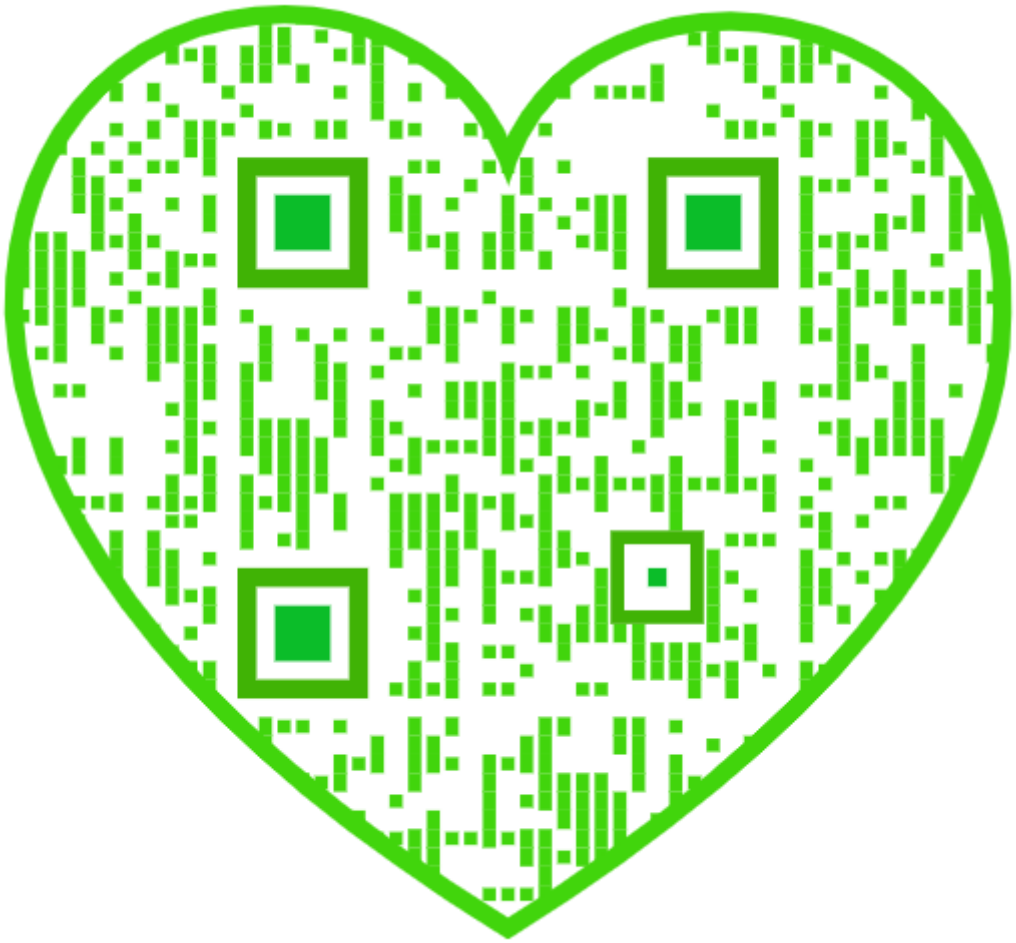

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Bandages and Bandaging for Nurses

By

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TO MY STUDENT NURSES

THIS

LITTLE BOOK IS SINCERELY DEDICATED

PREFACE

THE study periods and the recitation periods of the student nurse are a limited amount of time.

The aim of this little book is to give to these student nurses the fully illustrated fundamentals of the science of bandaging in as condensed a form as possible. It is bandages and bandaging treated upon from the standpoint of a nurse, and the book is, as the title implies, a book especially for nurses.

M. C. C.

November, 1920.

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BANDAGES AND BANDAGING FOR NURSES

BANDAGING

BANDAGING is the art of applying a material to retain other materials, to exert pressure, to support, or to immobilize.

Purposes: 1. Retain dressings and splints.
2. Exert pressure.
3. Support.
4. Immobilize.

Kinds: 1. Roller bandages.
2. Handkerchief bandages.
3. Tailed bandages or binders.

ROLLER BANDAGES

The roller bandage is a strip of material so wound upon itself as to form a compact roll.

Size: 1. Length, 2 to 10 yards.
2. Width, $\frac{3}{4}$ inch to 6 inches.

Fingers, Toes: Length, 2 to 5 yards. Width, $\frac{3}{4}$ inch to $1\frac{1}{2}$ inches.

Head, Neck, Hands, Forearms, Feet, Legs	Length, 2 to 10 yards. Width, 2 to $2\frac{1}{2}$ inches.
Arms, Chest, Thighs	Length, 2 to 10 yards. Width, $2\frac{1}{2}$ to 4 inches.
Trunk	Length, 2 to 10 yards. Width, 3 to 6 inches.

MATERIALS

1. Gauze is light, cool, soft, pliable, and absorbent. Bandages prepared from gauze may be made entirely by machinery and come prepared for use. They may be partially prepared by machinery. The material comes in long rolls which may be cut into the desired widths by means of a very sharp knife. They may be made entirely by hand. The material is either cut or torn into the desired widths and then rolled by hand. The strips of material may also be rolled by means of the hand roller bandage machine. The nature of gauze makes the bandage one especially useful to retain dressings and splints.

2. Muslin is heavier and stronger than gauze, but not so pliable. The bandages are prepared either by machinery or by hand. The muslin bandages are used where support, but not elasticity, is needed.

3. Flannel is soft, pliable, and protective. The bandages made from flannel are torn or cut into desired widths and rolled by hand. This bandage is used where warmth or protection is needed.

4. Flannellet is used as a substitute for flannel where less warmth is desired. It is also less irritating to the skin.

5. Cotton wadding is non-absorbent cotton in sheet form. Bandages are cut or torn from these sheets, rolled, and used as a protective material under casts.

6. Webbing is a woven material. The bandages, woven in the desired widths, are elastic, and, therefore, they are suitable to exert pressure evenly.

7. Woven elastic is an elastic woven material made of cotton and rubber. The bandages come prepared and are used to exert pressure.

8. Rubber is a very elastic material. The bandages are made in the desired widths and are known as Esmarch's rubber bandages. Rubber

bandages may be made by cutting rubber material into the correct widths, but they do not make as satisfactory bandages as those prepared for use. Rubber bandages are used for pressure, even to that extent as to cause restriction of circulation.

9. Crinoline is a stiff, loosely woven material. It is cut or torn into the desired widths, incorporated with starch, silicate of soda, paraffin, or plaster of Paris to make bandages for support.

PARTS

Single Roller Bandage.—The single roller is a rolled strip of material which has the following parts:

1. Body, the roll of bandage.

2. Inner surface, the surface that when rolled upon the bandage is toward the center.

3. Outer surface, the surface that is on the outside of the roll of the bandage.

4. Initial extremity, the free end of the roll of bandage.

5. Terminal extremity, the end in the center of the roller.

6. Upper border, the edge designated by the relation it bears to the subject, or that border which is nearest the patient's head.

7. Lower border, the opposite of upper border.

Double Roller Bandage.—The double roller is a bandage which differs from the single roller only in that it has two bodies instead of one. It has no initial extremity, but has two terminal extremities.

APPLICATION

Turns

By passing the bandage around or over a part we form what is known as a turn.

1. **Circular turn,** a turn which overlaps exactly the preceding turn (Fig. 1).

2. **Spiral turn,** a turn which deviates from the course of the preceding turn in a like manner to the threads of a screw, usually overlapping from one-third to three-fourths the width of the bandage (Fig. 2).

3. **Spiral reverse turn,** a turn which, in order to fit the increasing dimensions of the part, necessitates a reverse. Place the thumb of the left hand on the bandage to hold from slipping. Unroll enough bandage to reach to the other side of the part you are bandaging. Allow the bandage between the thumb of the left hand and the roller held in the right hand to be slack. Pronate the right hand and carry the bandage underneath the

Fig. 1.—Circular turns.

Fig. 2.—Spiral turns.

part to the other side (Fig. 3). Not until then is the slack removed by the traction necessary to produce the same tension as that used in the rest of the bandage (Fig. 4).

4. **Recurrent turn,** a turn which is caught back upon itself, either exactly over or overlapping the preceding turn (Fig. 5).

5. **Oblique turn,** a turn which at the point of intersection of the roller is brought obliquely over the initial extremity (Fig. 6).

6. **Figure-of-8 turn,** a turn which is made up of two converging loops or oblique turns made in different directions around different parts (Fig. 7).

To Roll

1. Fold the terminal end of the bandage upon itself until a sufficient amount is had to make a core (Fig. 8).

2. Grasp longitudinally between the thumb and the index-finger of the left hand. Hold so that the outer surface of the bandage is uppermost (Fig. 9).

3. Revolve by thumb and finger of right hand.

4. Guide bandage, in order to roll neatly, by allowing it to slip through between the index-finger and middle finger of the right hand (Fig. 10).

Fig. 3.—First step of spiral reverse turn.

Fig. 4.—Last step of spiral reverse turn.

Fig. 5.—Recurrent turns.

Fig. 6.—Oblique turn.

Fig 7.—Figure-of-8 turn.

Fig. 8.—Forming a core of a roller bandage.

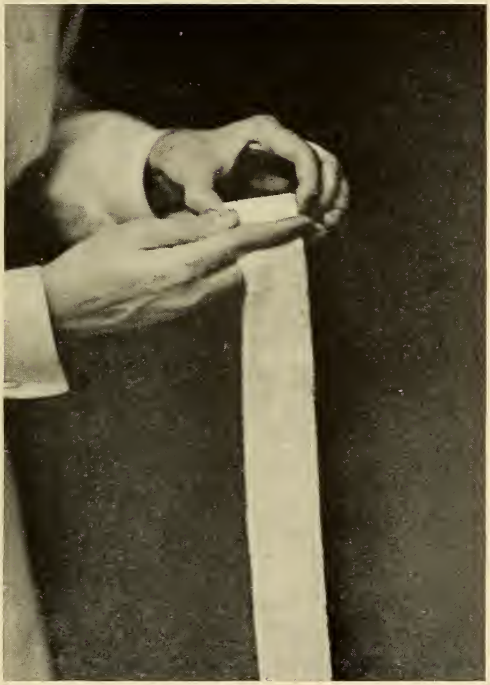

Fig. 9.—Rolling a bandage.

Fig. 10.—Rolling a bandage.

To Hand to Another

Hold the body of the bandage in the left hand and grasp initial extremity, with inner surface uppermost, between the thumb and the index-finger of the right hand (Fig. 11).

To Apply

1. Hold the body of the bandage in the right hand with the roll uppermost and grasp the initial extremity between the thumb and the index-finger of the left hand (Fig. 12).

2. Place the initial extremity of the bandage over the point of fixing with the inner surface uppermost and bandage from left to right (Fig. 13). Exception: Some special bandages are applied from right to left.

To Fix

Fixing is the method of holding the initial extremity of a bandage.

1. Circular turns—two or three (Fig. 1).
2. Oblique turn—one (Fig. 6).
3. Figure-of-8 turn—one (Figs. 7, 87).

To Secure or Fasten

1. Slit end of bandage and tie.
2. Pin.

Fig. 11.—Handing a bandage.

Fig. 12.—Holding a bandage.

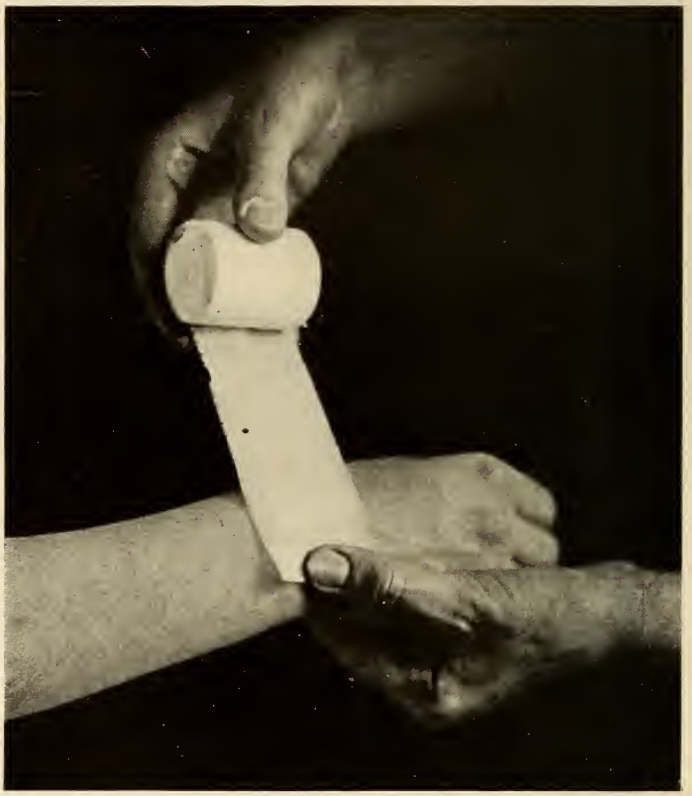

Fig. 13.—Placing the initial extremity.

3. Sew.
4. Stick with adhesive (Fig. 14).

Fig. 14.—Methods of fastening a bandage.

To Remove

Method 1.—Cut through all of the turns of the bandages at a point of no injury, if possible, with a pair of bandage scissors.

Method 2.—Loosen terminal extremity and unwind. Pass the loosened end of the bandage from hand to hand as the bandage is unwound. Do not allow loops to dangle (Fig. 15).

The method of removal of a bandage from the fingers is a little different. Carry the loosened end to the end of the finger, make gentle traction, and follow the circular course of the bandage around the end of the finger (Fig. 16).

Fig. 15.—Removing a bandage.

Fig. 16.—Removing a finger bandage.

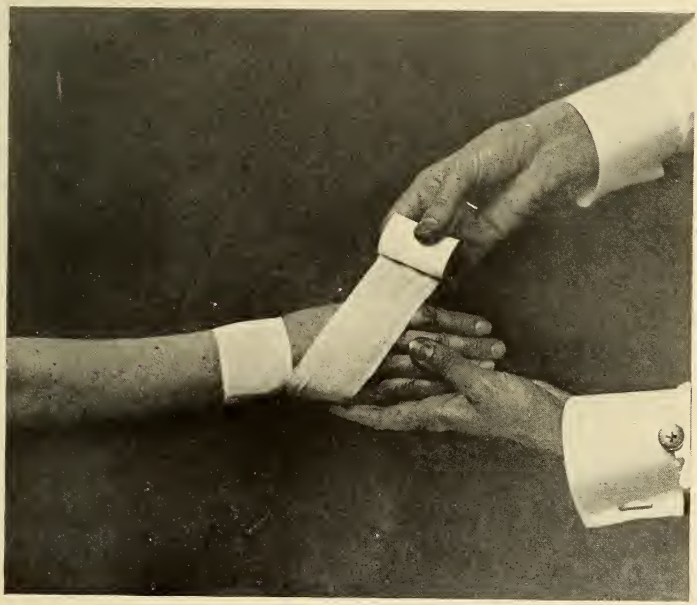

Fig. 17.—Carrying the bandage across the dorsum of hand.

UPPER EXTREMITY

Spiral Reverse Bandage of Upper Extremity

(2- to 2½-inch Bandage)

1. Face patient and bandage from left to right (Fig. 13).

2. Fix the bandage by circular turns about the wrist (Fig. 1). It may be fixed by an oblique turn (Fig. 6).

3. Carry the bandage down and across the dorsum of the hand to the tips of the fingers and make one circular turn, followed and overlapped two-thirds of the width of the bandage by one spiral turn and one spiral reverse turn about the fingers (Figs. 17, 18).

4. Make two figure-of-8 turns about the palm of the hand. Alternate the loops of the figure-of-8 turn above and below the thumb (Figs. 7, 19).

5. Continue up the wrist and forearm with spiral turns until a point is reached that the increasing diameter requires the use of the spiral reverse turns (Figs. 3, 4).

6. Make these until near the elbow, when the spiral turns may again be used over the elbow and up the arm (Fig. 20). If forearm is flexed, use figure-of-8 turns about the elbow (Figs. 21, 22, 23). (Also see Figs. 24, 25, 26, 27.)

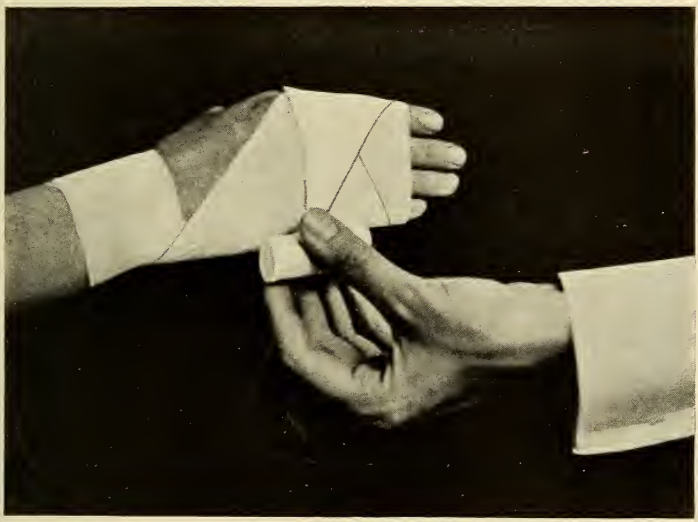

Fig. 18.—Spiral reverse turn around fingers.

Fig. 19.—Figure-of-8 turns around the palm of the hand.

Fig. 20.—Bandage of upper extremity.

Fig. 21.—Circular turn about point of elbow.

Fig. 22.—First loop of figure-of-8 turn about elbow.

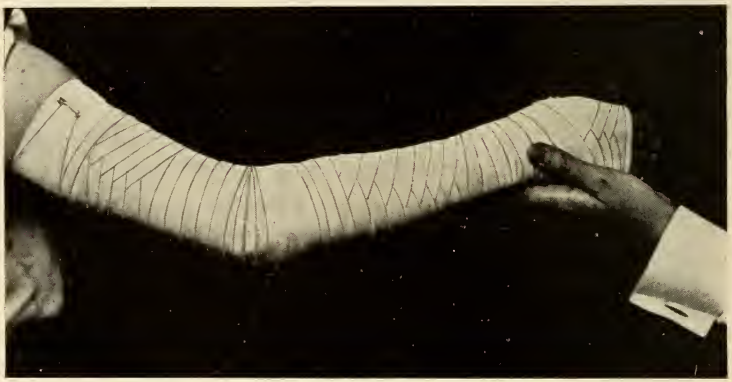

Fig. 23.—Bandage of upper extremity, arm, flexed.

7. Use spiral reverse turns for arm only if necessary.

8. Finish with a circular turn and fasten the terminal end (Fig. 20).

Use.—To retain dressings and splints and to exert pressure.

Figure-of-8 Bandage of Elbow

(2- to 2½-inch Bandage)

1. Face patient and bandage from left to right.

2. Fix the bandage by circular turns over the point of the elbow (Fig. 24).

3. The third time the inner surface of the elbow is reached carry the roller up and around the arm, overlapping the upper half of the circular turn over the point of the elbow and exactly overlapping at the inner angle of the elbow (Fig. 25). Carry the roller down from the inner side of the arm and around the forearm, overlapping one-half of the circular turns over the point of the elbow and exactly overlapping at the inner angle. These two turns complete one figure-of-8 turn (Fig. 26).

4. Make four or five figure-of-8 turns and fasten the terminal end at the front (Fig. 27).

Use.—To retain dressings.

Fig. 24.—Circular turns around point of elbow.

Fig. 25.—First loop of figure-of-8 turn of elbow.

Fig. 26.—Figure-of-8 turn about elbow.

Fig. 27.—Figure-of-8 bandage of elbow.

Ascending Spica of Thumb

(1-inch Bandage)

1. Face patient and bandage from left to right (Fig. 13).

2. Fix the bandage by circular turns around the wrist (Fig. 1).

3. Carry the roller to tip of the thumb and make a circular turn (Fig. 28).

4. Carry the roller back up to and around the wrist, then down and around the thumb. The two turns, one about the wrist and one about the thumb, make a complete figure-of-8 turn.

5. Make enough figure-of-8 turns to cover the thumb, each turn ascending and overlapping two-thirds. Intersections should be in a straight line over the dorsum of the thumb.

6. Finish by circular turns and fasten the terminal end at the wrist (Fig. 29).

Use.—To retain dressings and splints.

Descending Spica of Thumb

(1-inch Bandage)

1. Face patient and bandage from left to right (Fig. 13).

2. Fix the bandage by circular turns about the wrist (Fig. 1).

Fig. 28.—Beginning of figure-of-8 turn of thumb.

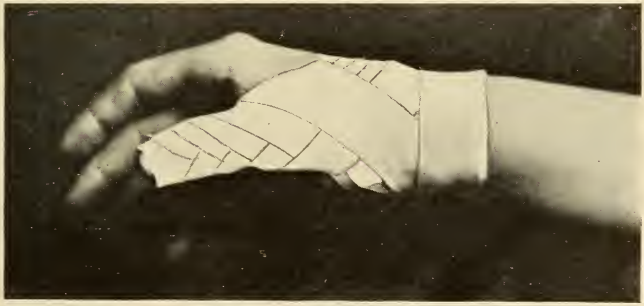

Fig. 29.—Ascending spica of thumb.

3. Carry the roller to the base of the thumb and make a circular turn (Fig. 30).

4. Carry the roller back up to and around the wrist, then down and around the thumb. The two turns, one about the wrist and one about the thumb, make a complete figure-of-8 turn.

5. Make enough figure-of-8 turns to cover the thumb, each turn descending and overlapping two-thirds. Intersections should be in a straight line over the dorsum of the thumb.

6. Finish by circular turns and fasten the terminal end at the wrist (Fig. 31).

Use.—To retain dressings and splints.

Bandage of One Finger

(1-inch Bandage)

1. Face patient and bandage from left to right. The hand should be pronated and the fingers extended.

2. Fix by circular turns around the wrist (Fig. 1).

3. Carry the roller across the dorsum of the hand to the base of the finger, around, and then to the tip of the finger by one or two spiral turns (Fig. 32).

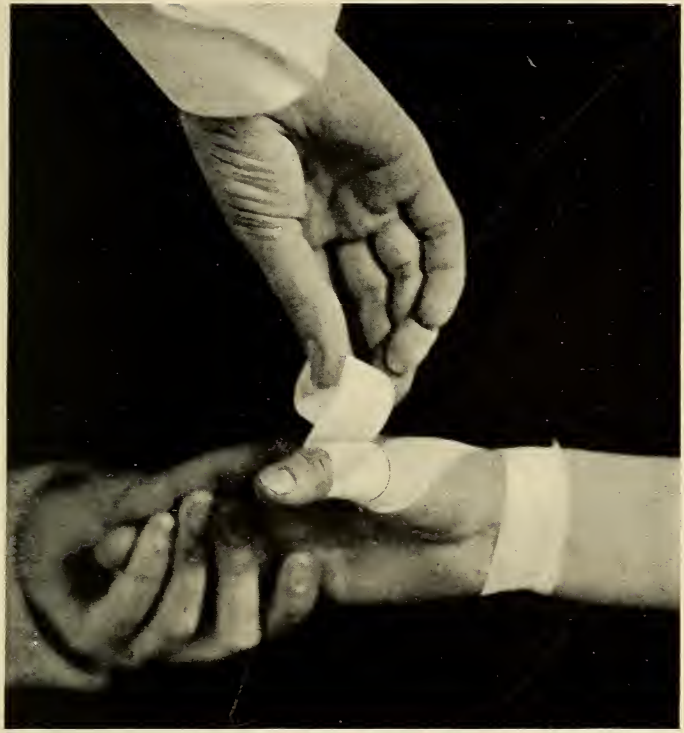

Fig. 30.—Circular turn of base of thumb.

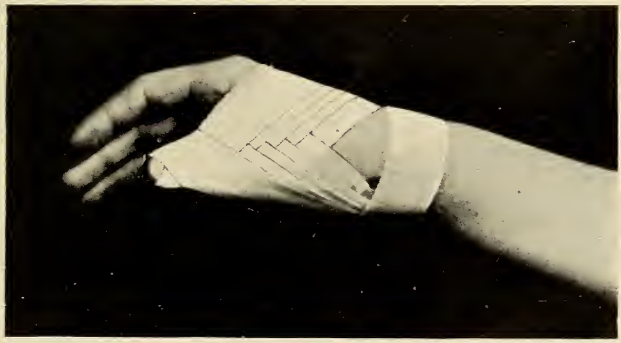

Fig. 31.—Descending spica of thumb

4. Cover the end of the finger with two or three recurrent turns.

5. Ascend the finger by spiral turns, which overlap two-thirds.

6. From the base of the finger carry the bandage across the dorsum of the hand to the wrist.

7. Finish with a circular turn and fasten the terminal end (Fig. 33).

Use.—To retain dressings.

(The same bandage, omitting recurrent turns of the tip of the finger, is used to retain splints.)

Small Bandage of One Finger

(¾- to 1-inch Bandage)

1. Face patient and bandage from left to right. The hand should be pronated and the fingers extended.

2. Cover the tip of the finger with two or three recurrent turns (Fig. 34).

3. Ascend the finger by spiral turns which overlap two-thirds.

4. Finish with a circular turn.

5. Fasten with ¼-inch strips of adhesive from the tip of the finger over the dorsum of the hand about 2 inches (Figs. 35, 36).

Use.—To retain small dressings and to give protection.

Fig. 32.—Spiral turn of finger.

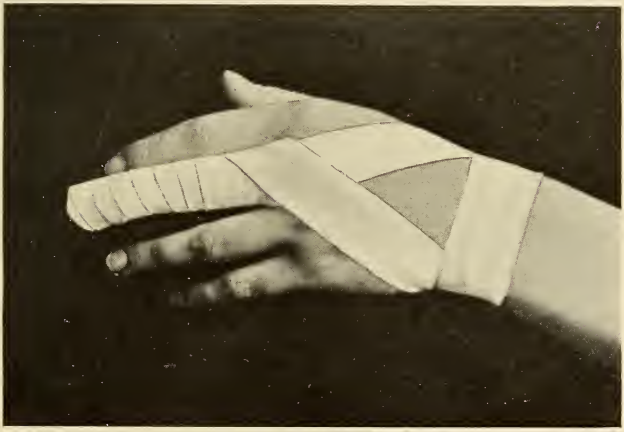

Fig. 33.—Bandage of one finger.

Fig. 34.—Recurrent turns.

Fig. 35.—Small bandage of one finger.

Fig. 36.—Small bandage of one finger.

Gauntlet Bandage

(1- to 1½-inch Bandage)

1. Face patient and bandage from left to right. The hand should be pronated and the fingers extended.

2. Fix by circular turns about the wrist (Fig. 1).

3. Carry the roller across the dorsum of the hand to the tip of the index-finger if the right hand. If the left hand, carry to the tip of the little finger.

4. Make a circular turn about the tip of the finger (Fig. 37).

5. Ascend by spiral turns to the base of the finger. If necessary, use spiral reverse turns.

6. Carry the roller across the dorsum of the hand to the wrist and make a circular turn.

7. In like manner bandage each finger and then the thumb last.

8. Finish with a circular turn at the wrist and fasten the terminal end (Fig. 38).

Use.—To retain dressings and splints and to give protection.

Demigauntlet Bandage

(1- to 1½-inch Bandage)

1. Face patient and bandage from left to right. The hand should be pronated and the fingers extended.

Fig. 37.—Circular turn around end of finger.

Fig. 38.—Gauntlet bandage.

2. Fix by circular turns around the wrist (Fig. 1).

3. Carry the roller across the dorsum of the hand to the base of the index-finger if the right hand (Fig. 39). If the left hand, carry to the base of the little finger.

4. Make a circular turn and carry the roller back up across the dorsum of the hand to the wrist.

5. In like manner bandage each finger and then the thumb last.

6. Finish with a circular turn at the wrist and fasten the terminal end (Fig. 40).

Use.—To retain dressings and to give protection.

Recurrent Bandage for Fist or Stump

(2- to 3½-inch Bandage)

1. Face patient and bandage from left to right.

2. Fix by circular turns around the wrist for fist bandage (Fig. 1). Fix by circular turns around the part to be bandaged for a stump bandage.

3. Carry the bandage down and cover the entire fist, or stump, with recurrent turns (Fig. 5).

4. Retain recurrent turns with ascending spiral turns until the point of fixing is reached.

Fig. 39.—Circular turn around base of finger.

Fig. 40.—Demigauntlet bandage.

5. Finish with a circular turn and fasten the terminal end (Fig. 41).

Use.—To retain dressings and to give protection.

Fig. 41.—Bandage of fist or stump.

LOWER EXTREMITY

Spiral Reverse Bandage of Lower Extremity

(2- to 3-inch Bandage)

1. Face the patient and bandage from left to right.

2. Fix the bandage by an oblique turn or circular turns around the ankle (Figs. 42, 43). Carry the bandage down diagonally across the dorsum of the foot (Fig. 43).

3. Make a circular turn around the foot, then a spiral turn and a spiral reverse turn, followed by two figure-of-8 turns about the heel (Figs. 44, 45).

4. Cover the ankle and the leg with spiral turns until a point is reached that its increasing diameter necessitates spiral reverse turns.

5. Continue with spiral reverse turns to the region of the knee. If the knee is flexed, cover by figure-of-8 turns (Fig. 46). If the leg is extended, cover by spiral turns.

6. Use spiral turns to cover the thigh unless the increasing diameter necessitates spiral reverse turns.

7. Terminate with a circular turn and fasten (Fig. 47).

Use.—To support, to exert pressure, to give protection, and to retain dressings and splints.

Complete Bandage of Foot

(2½- to 3-inch Bandage)

1. Face the patient and bandage from left to right.

Fig. 42.—Oblique turn of ankle.

Fig. 43.—Carrying the bandage diagonally across the dorsum of the foot.

Fig. 44.—Spiral reverse turn around foot.

Fig. 45.—Bandage of foot.

Fig. 46.—Figure-of-8 bandage of knee.

Fig. 47.—Bandage of lower extremity.

2. Fix the initial extremity at the ankle (Fig. 42). Carry the roller diagonally across the dorsum of the foot to the toes (Fig. 43).

3. Make a circular turn, a spiral, and a spiral reverse turn around the foot (Fig. 44).

4. Carry the bandage up over the instep and then down under the point of the heel and back to the instep (Fig. 48).

5. From there pass it to the sole of the foot and around the heel to the tendon of Achilles and back to the instep on the same side (Fig. 49).

6. Carry the roller to the sole of the foot on the other side and around the point of the heel to the tendon of Achilles and back up to the ankle (Fig. 50).

7. Terminate with a circular turn at the ankle and fasten (Fig. 51).

Use.—To exert pressure, to give protection, and to retain dressings.

HEAD

Occipitofacial Bandage

(2- to 2½-inch Bandage)

1. Face the patient and carry the roller from left to right if the injury is on the right side, and from right to left if on the left side. (Always carry the bandage up the injured side.)

Fig. 48.—Circular turn around point of heel.

Fig. 49.—Around point of heel on inside of foot.

Fig. 50.—Around point of heel on outer side of foot.

Fig. 51.—Complete bandage of foot.

2. Fix the bandage by vertical, circular turns around the face (Fig. 52).

3. Upon reaching the temple the third time, make a right-angled reverse (Fig. 53). Carry the roller back above the ear to the occiput, across beneath the occiput, and above the ear to the other temple.

4. Pin at the terminal end and at the right-angled reverse (Fig. 54).

Use.—To support and to retain dressings.

Jaw Bandage

(2- to 2½-inch Bandage)

1. Face patient and carry the roller from left to right if the injury is on the left side, and from right to left if on the right side.

2. Fix the bandage by circular horizontal turns around the vault of the cranium (Fig. 55).

3. After reaching the occiput the third time, carry the bandage beneath the ear of the sound side, under the chin, and up the injured side of the face to the vertex (Figs. 56, 57). The edge of the bandage should come just to the angle of the mouth.

4. Descend from the vertex, behind the ear on the sound side to the chin.

5. Make enough like turns to cover the entire

Fig. 52.—Vertical circular turn around face.

Fig. 53.—Right-angled reverse.

Fig. 54.—Occipitofacial bandage.

Fig. 55.—Circular horizontal turn around vault of cranium.

Fig. 56.—Beneath ear of sound side and under chin.

Fig. 57.—Up injured side of face.

injured side of the face. Overlap one-half or two-thirds each ascending turn (Fig. 58). Exactly overlap each descending turn (Fig. 59).

Fig. 58.—Jaw bandage (side of injury).

6. Finish with a right-angled reverse at the temple and a horizontal circular turn around the vault of the cranium (Figs. 58, 59).

7. Pin at the terminal end and at each intersection.

Use.—To support, to immobilize, and to retain dressings and splints.

Fig. 59.—Jaw bandage (sound side).

Monocle or Bandage of One Eye

(2- to 2½-inch Bandage)

1. Face patient and carry the roller from left to right if the right eye is to be bandaged, and from right to left if the left eye is to be bandaged.

2. Fix the bandage by circular horizontal turns about the vault of the cranium (Fig. 55).

3. The third time the occiput is reached, carry the roller forward beneath the ear, to the ramus of the jaw, and obliquely across the eye up to the

tuberosity of the parietal bone on the sound side (Fig. 60). From there carry the roller back to the occiput or the starting-point of the turn.

4. Repeat this turn two or three times, each turn overlapping, ascending on the face, over the eye, and descending on the scalp.

5. Finish with a circular horizontal turn around the vault of the cranium and terminate at the temple (Fig. 61).

6. Pin the terminal end and the intersections.

Use.—To retain dressings and to give protection.

Binocle or Bandage of Both Eyes

(2- to 2½-inch Bandage)

1. Apply bandage of one eye, but instead of fastening upon reaching the occiput, proceed with the bandage of the other eye.

2. Carry the bandage from the occiput up over the tuberosity of the parietal bone, down and across the other eye, and beneath the ear to the occiput.

3. The eye is then covered with these turns, each turn overlapping, descending on the face over the eye and ascending on the scalp.

4. Finish with a circular horizontal turn around

Fig. 60.—From ramus of jaw to tuberosity of parietal bone.

Fig. 61.—Bandage of one eye, or monocle.

Fig. 62.—Bandage of both eyes, or binocle.

Fig. 63.—Right-angled reverse.

the vault of the cranium and terminate at the temple (Fig. 62).

5. Pin the terminal end and at intersections.

Use.—To retain dressings and to give protection.

Recurrent Bandage

(2- to 2½-inch Bandage)

1. Face patient and fix the bandage with circular horizontal turns around the vault of the cranium (Fig. 55).

2. The third time the occiput is reached make a right-angled reverse and carry the bandage up across the vertex of the head in the median line (Fig. 63).

3. Bring the bandage to the lower edge of the circular turns in the median line of the frontal portion of the head.

4. Reverse and carry the roller to the left (patient's left) of the median line and backward to the occiput to the lower edge of the horizontal turn. Overlap the preceding turn one-half. Reverse at the occiput and bring the roller forward to the right (patient's right) of the median line to the lower edge of the horizontal turns at the median line of the frontal portion of the head. Overlap the median turn one-half.

5. Reverse and again carry the roller to the left of the median line from the frontal portion of the head to the occiput. Reverse and again bring the roller forward to the right of the median line from

Fig. 64.—Recurrent bandage of head.

the occiput to the frontal portion of the head. Overlap.

6. By means of the recurrent turns cover the entire scalp. Overlap each preceding turn three-fourths of the width of the bandage.

7. Finish with two horizontal circular turns

around the vault of the cranium to hold the recurrent turns.

8. Pin at both the frontal portion of the head and at the occiput (Figs. 64, 65).

Use.—To exert pressure and to retain dressings.

Fig. 65.—Recurrent bandage of head.

Double-headed Recurrent Bandage

(Double Roller—2- to 2½-inch Bandage)

1. Face patient.
2. Place the double roller with the outer surface

of the bandage between its two bodies upon the forehead (Fig. 66).

3. Carry the rollers back above the ears to the occiput.

4. At the occiput the roller in the right hand is continued in its circular horizontal course, while the roller in the left hand is reversed at the occiput and brought up over the vertex of the head in the median line over the horizontal turn (Figs. 67, 68, 69).

5. The roller of the right hand is then continued on its circular horizontal course over the other bandage (Fig. 70).

6. Reverse and carry the roller of the left hand to the left (patient's left) of the median line and backward to the occiput below the horizontal turn. Hold the turn in place by a circular horizontal turn of the roller of the right hand (Fig. 71).

7. Reverse the roller of the left hand at the occiput. Bring it up to the right (patient's right) of the median line and across the top of the head to below the horizontal turn. Again hold this turn in place by the circular horizontal turn of the roller of the right hand.

8. Continue thus with the recurrent turns (those of the left side from the frontal portion of the

Fig. 66.—Placing double roller bandage.

Fig. 67.—Passing roller of right hand over roller of left hand.

Fig. 68.—Reverse at occiput.

Fig. 69.—Bringing roller of left hand down over horizontal turns.

Fig. 70.—Passing roller of right hand over bandage of recurrent turns.

Fig. 71.—Reverse at the frontal portion of the head.

head to the occiput, and those of the right side from the occiput to the frontal portion of the head) of the left roller, and hold in place by the horizontal turns of the roller of the right hand, until the entire scalp is covered.

9. After the scalp is entirely covered, carry the roller of the recurrent turns from the occiput around in the course and in the direction of the circular horizontal turns, followed by your roller of the circular horizontal turns until one entire circular horizontal turn is made with the two rollers (Fig. 72).

10. Terminate and pin at the temple (Figs. 64, 65).

Use.—To exert pressure and to retain dressings.

White's Bandage or Figure-of-8 Bandage of Head and Neck

(2- to 2½-inch Bandage)

1. Face patient and fix the bandage by circular horizontal turns around the vault of the cranium (Fig. 55).

2. The third time the occiput is reached, carry the bandage down and around the neck and back to the occiput.

3. Alternate head and neck turns. The two turns make a complete figure-of-8 turn.

Fig. 72.—Circular horizontal turns of both bodies of double roller.

Fig. 73.—White's bandage.

4. Make three complete figure-of-8 turns and fasten by pinning at the temple (Fig. 73).

Use.—To retain dressings.

Hunter's V Bandage or Figure-of-8 Bandage of Head

(2- to 2½-inch Bandage)

1. Face patient and fix the bandage by circular horizontal turns around the vault of the cranium (Fig. 55).

2. The third time the occiput is reached, carry the bandage forward beneath the ear, along the

jaw to the chin, across the front of the chin, back along the jaw, and beneath the ear to the occiput (Fig. 74).

Fig. 74.—Circular turn about chin.

3. Alternate the turns about the cranium and the chin. The two turns make a complete figure-of-8 turn.

4. Make three complete figure-of-8 turns, each exactly overlapping the preceding turn.

5. Terminate the bandage at the temple and pin (Fig. 75).

Use.—To retain dressings.

Fig. 75.—Hunter's V-bandage.

Cowan's Bandage of Ear or Mastoid Process

(2- to 2½-inch Bandage)

1. Face part to be bandaged and carry the roller from left to right if the left ear or mastoid process is to be covered, and from right to left if the right side.

2. Fix the bandage by circular horizontal turns around the vault of the cranium (Fig. 55).

3. On reaching the temple of the affected side the third time, carry the roller downward far enough to cover well the lobe of the ear and the mastoid process (Fig. 76); then back beneath the occiput, and continue with similar turns, which at the ear overlap each preceding turn one-half, until the ear and mastoid process are well covered.

4. Finish with a circular horizontal turn, slit ends (Fig. 77). Pull each end through underneath bandage to opposite side and tie near the occiput on the injured side (Fig. 78).

5. Take a short length of bandage, slip beneath the entire bandage just in front of the ear, and tie (Fig. 79).

Use.—To retain dressings and to give protection.

Gibson's Bandage

(2- to 2½-inch Bandage)

1. Face patient. Place the initial extremity at the temple or vertex and make three vertical turns around the face (Fig. 52). Always carry the bandage up on the injured side. Upon reaching the temple the third time, make a right-angled reverse (Fig. 53).

Fig. 76.—Covering lobe of ear and mastoid process.

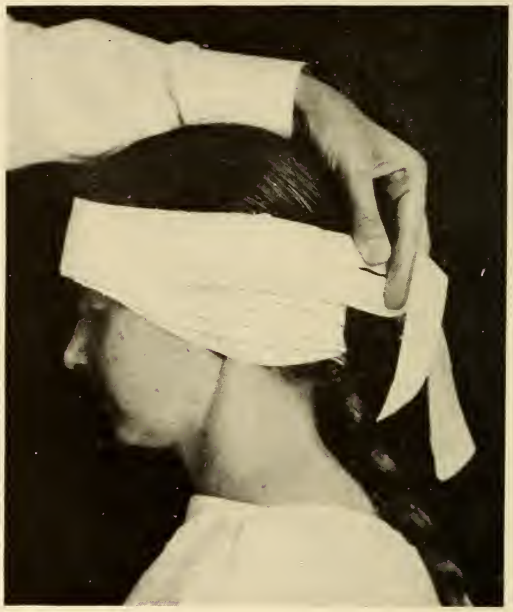

Fig. 77.—Covered mastoid process and slit ends of bandage.

Fig. 78.—Ends pulled through underneath bandage to opposite sides.

Fig. 79.—Cowan's bandage of ear or mastoid process.

2. Carry the bandage back beneath the occiput, up above the ear to the temple, across the frontal portion of the head to the temple, and back above the ear to the occiput. Make three of these

Fig. 80.—Vertical and occipitofrontal turns of Gibson's bandage.

horizontal turns about the vault of the cranium (Fig. 80).

3. The third time the occiput is reached, in making the horizontal turns, carry the bandage forward beneath the ear along the side of the jaw to the chin (Fig. 81) and from this point across the

front of the chin and back along the side of the jaw to the occiput. Make three such turns.

4. Make a right-angled reverse at the occiput and finish by carrying the bandage, in the median

Fig. 81.—Third group of turns of Gibson's bandage.

line, over the vertex of the head to the frontal portion of the head (Fig. 82).

5. Pin at the terminal end, right-angled reverse, and each intersection.

Use.—To exert pressure, to support and to retain dressings.

Fig. 82.—Back view of Gibson's bandage.

Barton's Bandage

(2- to 2½-inch Bandage)

1. Face patient. Place the initial extremity of the roller to the left of the occiput if injury is on the right side of the head (Fig. 83). Place the

Fig. 83.—Placing of initial extremity of Barton's bandage.

initial extremity of the roller to the right of the occiput if the injury is on the left side of the head, and reverse the whole course of your bandage.

2. Hold the initial extremity with the left thumb or index-finger.

3. Carry the roller across beneath the occiput to a like point on the other side of the head and up to the vertex (Fig. 84).

4. Down the sound side of the face to the chin (Fig. 85).

5. Under the chin and up the injured side of the face to the vertex (Fig. 86).

6. Cross the other turn of the bandage at the vertex exactly at the median line.

7. Carry the bandage back around the vault of the cranium, above the ear to the starting-point at the occiput, and cross the initial end obliquely, which completes a figure-of-8 turn and fixes the bandage (Fig. 87).

8. Pass the roller from beneath the occiput forward, under the ear on the injured side, and across the jaw to the chin (Fig. 88).

9. Around the chin and back under the ear to the occiput (Fig. 89). This completes one entire turn of the bandage.

10. Repeat twice, making three turns in all.

11. Finish by fastening terminal end at the vertex (Fig. 90).

12. Pin at each intersection.

Use.—To exert pressure, to support and to retain dressings.

Fig. 84.—Passing roller from occiput to vertex.

Fig. 85.—Down sound side of face.

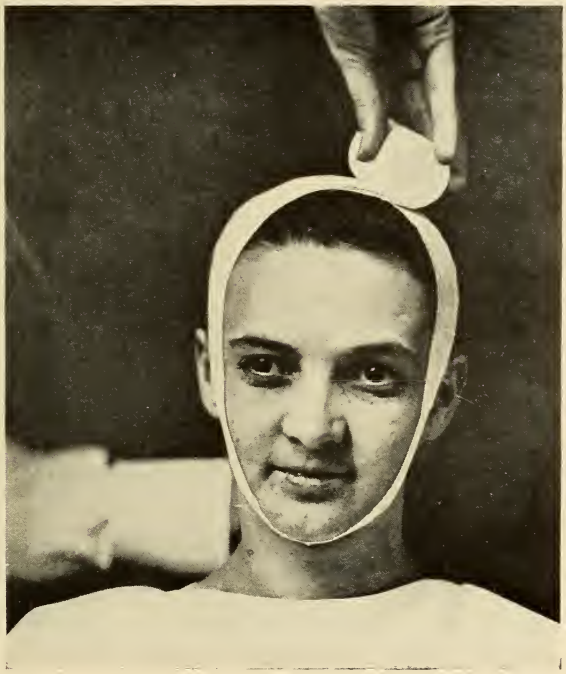

Fig. 86.—Up injured side of face.

Fig. 87.—Fixing of Barton's bandage.

Fig. 88.—Last step of first turn of Barton's bandage.

Fig. 89.—Completed first turn of Barton's bandage.

Fig. 90.—Barton's bandage.

TRUNK

Figure-of-8 Bandage of Neck and Axilla

(3- to 3½-inch Bandage)

1. Face the shoulder to be bandaged. Carry the bandage from left to right.

2. Fix the bandage by the oblique method. Place the initial extremity on the top of the shoulder, carry the bandage under the axilla, back up over the initial extremity, and cross in the median line of the shoulder (Fig. 91).

3. Ascend to and encircle the neck.

4. Carry the roller back to the shoulder and cross the bandage in the median line. The two turns, one around the neck and the other around the arm, make one complete figure-of-8 turn.

5. Make three figure-of-8 turns (Fig. 92).

6. Terminate at the most convenient point in front and fasten.

Use.—To retain dressings.

Figure-of-8 Bandage of Back and Shoulders

(3- to 3½-inch Bandage)

1. Face patient's back and bandage from left to right.

2. Fix by the oblique method. Place the extremity of the bandage below the scapula. Carry

Fig. 91.—Oblique method; fixing of figure-of-8 bandage of neck and axilla.

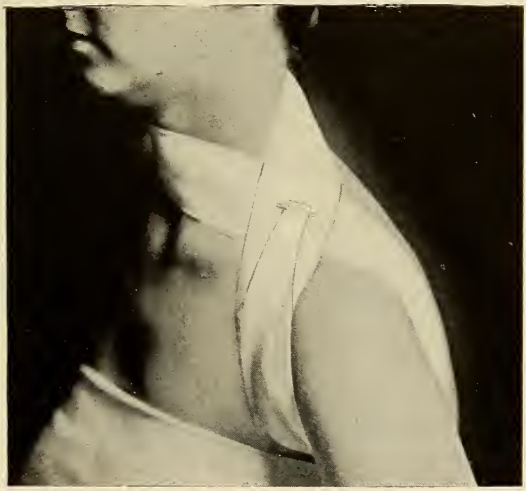

Fig. 92.—Figure-of-8 bandage of neck and axilla.

over to the opposite side and up over the shoulder, down in front, back under the axilla, across the back and up, so that the roller passes over and holds the initial extremity in the median line of the back (Fig. 93).

Fig. 93.—Fixing by oblique method; bandage of back and shoulders.

3. Carry the bandage up and over the shoulder on the opposite side, descend in front, back under the axilla, and from thence back to and cross again

Fig. 94.—Bandage of back and shoulders.

in the median line. The two turns, one about each shoulder, complete one figure-of-8 turn.

4. A series of four or five figure-of-8 turns are made, each exactly or partially overlapping, one-half or two-thirds ascending or descending.

5. Terminate and pin at a point in front (Fig. 94).

Use.—To retain dressings and to give support.

Figure-of-8 Bandage of Trunk and Axilla

(3- to 3½-inch Bandage)

1. Face shoulder to be bandaged and carry the roller from left to right.

2. Fix the initial extremity by circular turns around the arm near the shoulder on the injured side.

3. Carry the roller up over the point of the shoulder in the median line, cross the trunk to the opposite axilla, under the axilla, back across the trunk to the shoulder, and cross the bandage at the median line (Fig. 95). Continue the roller around the arm and back up to the median line. The two turns make a complete figure-of-8 turn.

4. Continue with the figure-of-8 turns, each turn partially overlapping, ascending or descending on the shoulder until the shoulder is covered. (The result will be an ascending or descending spica of the shoulder.)

5. Terminate and fasten at any convenient point in front (Fig. 96).

Use.—To retain dressings and splints.

Spiral Bandage of Chest

(3- to 5-inch Bandage)

1. Face the patient and bandage from left to right.

2. Fix the bandage by circular turns around the waist, ascend by spiral turns, each overlapping the preceding one-half to two-thirds, until the

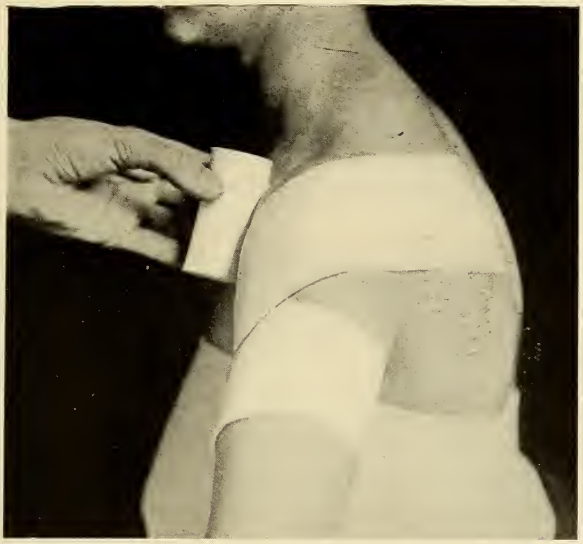

Fig. 95.—Crossing bandage at median line of shoulders.

Fig. 96.—Spica of shoulder.

thorax up to the level of the axilla is reached (Fig. 97).

3. Terminate spiral turns at the left axilla. Carry up obliquely across the back to the summit of the right shoulder and down across the spiral

Fig. 97.—Spiral bandage of chest.

turns to the median line. Reverse. Carry up to the summit of the left shoulder and down in the back to the lower edge of the spiral turns. Fasten with adhesive or pins.

Use.—To give support and to retain dressings.

Ascending Spica of Groin

(3- to 4-inch Bandage)

1. Face patient if ambulatory. Use pelvis rest for a bed patient. Bandage from left to right.

2. Fix the bandage by circular turns around the upper portion of the thigh.

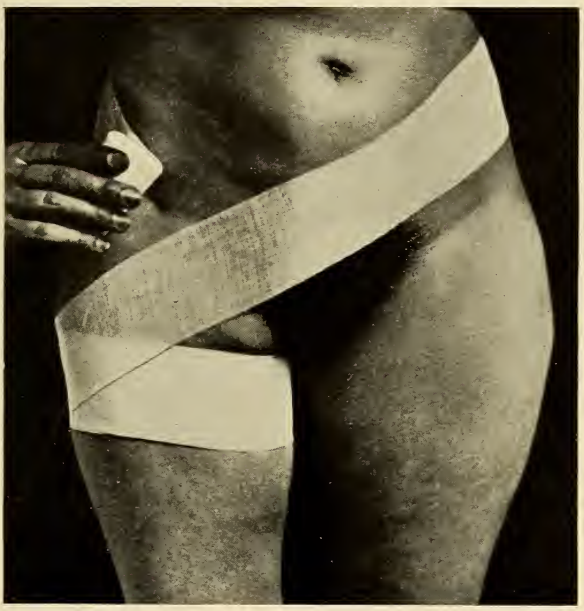

Fig. 98.—Beginning first turn of spica of groin.

3. The third time the front of the thigh is reached, carry the bandage up around the trunk and back to the starting-point (Fig. 98). Carry

the bandage down and around the thigh. The two turns make a complete figure-of-8 turn.

4. Continue the turns, each ascending and overlapping one-half to two-thirds until four or five turns are made.

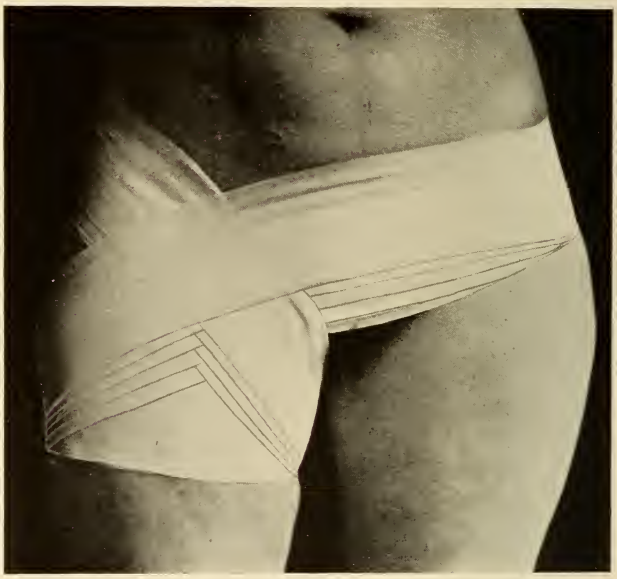

Fig. 99.—Spica of groin.

5. Terminate and fasten the bandage at a convenient point in front (Fig. 99).

Use.—To exert pressure, to support and to retain dressings.

Double Ascending Spica of Groin

(3- to 4-inch Bandage)

1. Face the patient if ambulatory. Use pelvis rest for a bed patient. Bandage from left to right.

2. Fix by an oblique turn around the right thigh (Fig. 100). Carry the roller up obliquely across

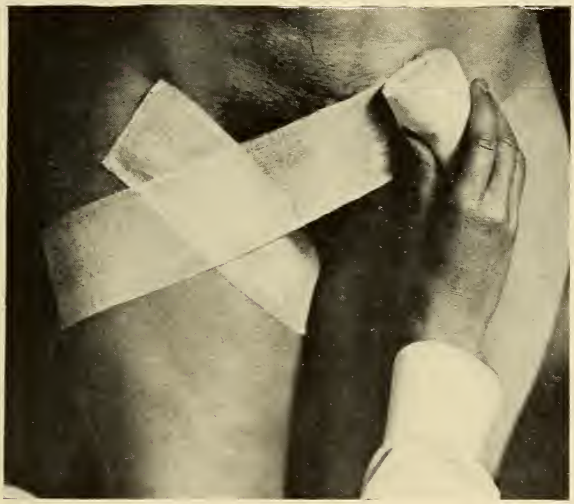

Fig. 100.—Oblique method; fixing of bandage of groin.

the pubes, around the trunk, obliquely across the pubes to the front of the left thigh, around the left thigh, up and across the back to the starting-point. This makes one complete turn of the bandage.

3. Apply four or five such turns, ascending over-

Fig. 101.—Double bandage of groin.

lapping one-half to three-fourths. Terminate and fasten at a convenient point in front (Fig. 101).

Use.—To support, to exert pressure, and to retain dressings.

Suspensory of Breast

(3-inch Bandage)

1. Face patient.
2. Place the initial extremity of the bandage below the axilla just on a line with the lower margin of the breast on the affected side.

3. Carry the roller up below the affected breast, obliquely across the chest to the summit of the shoulder of the opposite side, down obliquely in the back to a point at the side which will carry the roller across the initial extremity to fix the bandage (Fig. 102). Carry the roller around the

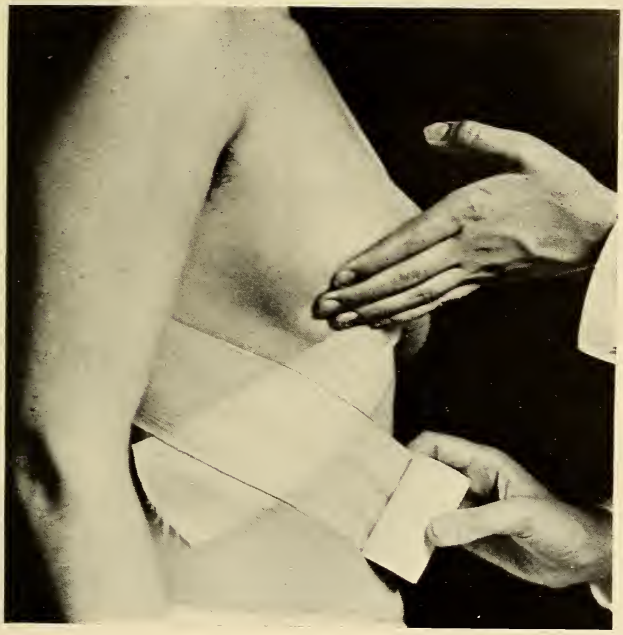

Fig. 102.—Oblique method of fixing bandage of one breast.

trunk and back to the starting-point. The two turns make one complete turn (figure-of-8) of your bandage.

4. Continue the figure-of-8 turns, overlapping

each ascending one-half to three-fourths at the junction, and converging at the summit of the shoulder, and at the point below the axilla on the unaffected side until the entire breast is covered and supported (Fig. 103).

Fig. 103.—Bandage of one breast.

5. Terminate and fasten at a convenient point in front.

Use.—To support, to exert pressure, and to retain dressings.

Double Suspensory of Breasts

(3-inch Bandage)

1. Face patient. Bandage from left to right.

2. Place the initial extremity of the bandage below the axilla just on a line with the lower margin of the right breast. Carry the roller below the right breast obliquely across the chest to the summit of the left shoulder, and down obliquely across the back to the point at the side which will carry the roller over the initial extremity to fix the bandage (Fig. 102).

3. Carry the roller horizontally across the lower thorax to the left side, backward over the side, obliquely across the back to the summit of the right shoulder, and down obliquely across the chest and under the lower margin of the left breast (Fig. 104).

From this point carry the roller horizontally across the back to the starting-point on the right side (Fig. 105). This completes one entire turn of the bandage.

4. Continue with like turns, overlapping (except on the shoulder, where they should converge) one-half to three-fourths in an ascending direction until the entire breasts are covered and supported. Care must be taken that the breasts are lifted and

Fig. 104.—First turn of bandage of both breasts, anterior view.

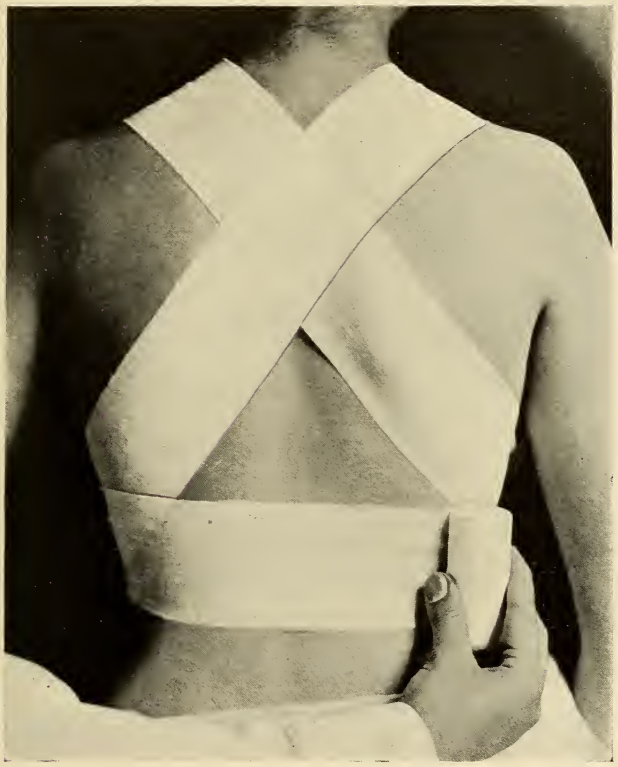

Fig. 105.—First turn of bandage of both breasts, posterior view.

Fig. 106.—Bandage of both breasts.

held in place with the left hand at the time the turns are put on with the right hand.

5. Terminate and fasten the bandage at a convenient point in front (Fig. 106).

Use.—To support, to exert pressure, and to retain dressings.

Velpeau's Bandage

(3- to 3½-inch Bandage)

1. Face patient and pad the axilla of the injured side.

2. Place the hand of the injured side on the shoulder of the sound side. Protect the elbow from pressure by padding well. Place the initial extremity of the bandage in the axilla of the

Fig. 107.—Fixing of Velpeau's bandage.

sound side. Carry the roller diagonally across the back to the summit of the shoulder, down over the outer part of the arm, behind the elbow, and up and across the chest to the axilla. Make three such turns to fix the bandage (Fig. 107).

3. Upon reaching the axilla the third time make a circular turn around the thorax and the arm, bringing the middle of the bandage over the external condyle of the humerus, and completing the

Fig. 108.—Second turn of Velpeau's bandage

circular turn at the axilla on the sound side (Fig. 108).

4. A shoulder turn (like the fixing turns) is then made, overlapping one-half to three-fourths toward the median line.

5. Make another horizontal turn including arm, forearm, and thorax overlapping (ascending spiral), the previous circular turn one-half on the injured side over the arm, and converging on the sound side at the axilla.

6. Thus alternate turns until the entire arm

Fig. 109.—Velpeau's bandage.

and forearm as far as the wrist are covered and supported (Fig. 109).

7. Fasten with narrow strips of adhesive to keep it from slipping.

Use.—To support and to immobilize. (Fracture of clavicle—dislocation of shoulder.)

Desault's Dressing

(3 Rolls—3- to 3½-inch Bandage, 1 Wedge-shaped Pad)

First Roller.—1. Face the patient and bandage from left to right. Place the wedge-shaped pad in the axilla on the injured side (Fig. 110).

Fig. 110.—Wedge-shaped pad.

2. Start with the initial extremity of the bandage on the pad and make four ascending spiral turns about the thorax and the pad overlapping three-quarters or more of the width of the bandage (Figs. 111, 112).

Fig. 111.—Fixing of first roller of Desault's dressing.

Fig. 112.—Spiral turns of first roller of Desault's dressing.

3. The fourth time the axilla of the injured side is reached, carry the roller beneath the pad, up and across the chest, over the shoulder, down the back, forward to the axilla, up to the shoulder, and down across the back to the axilla on the in-

Fig. 113.—The first roller of Desault's dressing, front view.

jured side. These two turns make one complete figure-of-8 turn.

4. Make three of these figure-of-8 turns.

5. Terminate and fasten at a convenient point in front (Figs. 113, 114).

Second Roller.—1. Bring the arm firmly against

the pad and the body with the forearm flexed at a right angle.

2. Fix the initial extremity by two or three circular turns about the thorax, and the arm of the

Fig. 114.—The first roller of Desault's dressing, back view.

injured side over the head of the humerus and under the axilla on the sound side (Fig. 115).

3. Descend, using spiral turns (each turn overlapping the preceding one-half over the injured arm and three-fourths in the axillary line of the sound side) to the elbow.

Fig. 115.—Fixing of second roller of Desault's dressing.

4. Terminate with a circular turn and fasten at a convenient point in front (Fig. 116).

Third Roller.—1. Fix by the oblique method. Place the initial extremity of the bandage in the axilla of the sound side, carry the roller up and across the thorax, over the shoulder, down the back of the arm to the elbow, under the elbow, obliquely across the chest to the axilla on the sound side, and over the initial extremity of the bandage, which fixes it (Figs. 117, 118).

2. Carry the roller under the axilla, up and across the back to the summit of the shoulder, where it crosses the other turn in the median line of the shoulder. Continue down the front of the arm to the elbow, under the elbow, and across the back to the sound axilla (Fig. 119). This completes an anterior turn and a posterior turn, which make one complete turn.

3. Make three complete turns. Terminate at a convenient point in front and fasten. Pin or stick with adhesive at intersections. Make a sling with a piece of bandage to support the hand (Fig. 120).

Use.—To support and to immobilize. (Fractured clavicle.)

Fig. 116.—The second roller of Desault's dressing.

Fig. 117.—Placing of initial extremity of third roller of Desault's dressing.

Fig. 118.—Fixing of third roller of Desault's dressing.

Fig. 119.—Back view of first turn of third roller of Desault's dressing.

Fig. 120.—Desault's dressing.

PLASTER BANDAGES

Plaster-of-Paris bandages are the most common form of bandages used for support. They are made of some meshed goods combined with gypsum (plaster-of-Paris) as a hardening agent.

Preparation of Plaster Bandages

Plaster bandages may be made of cheese-cloth or mosquito netting, but crinoline is the better material. They can be bought ready for use or made by the following method:

Crinoline is cut or torn into strips from 2 to 6 inches in width and 3 to 5 yards long and rolled into loose rollers. A table of fair size with a very smooth top, preferably of glass or a piece of glass to cover the top, is placed on a protected portion of the floor. The protection for the floor may be paper, an old sheet, or any other kind of material that will protect the floor from any plaster of Paris that might accidentally get sifted on to it. A chair should be placed at the table for the worker and the necessary things at hand, *i. e.*, the rollers of crinoline, a good supply of fresh and absolutely

dry plaster of Paris, and a large jar or container for the finished bandages.

The initial extremity of one of the rollers is then unrolled for 2 or 3 feet. The plaster is sprinkled on and then rubbed in with the finger-tips so as to retain as much of the plaster of Paris as possible. This part of the bandage is then rolled and another part treated in a similar manner until the entire bandage is finished.

They must be kept in an air-tight container, as the moisture in the air is readily absorbed by the plaster and the bandage is rendered unfit for use.

To Apply Plaster Bandages

Protect floors, bed, tables, etc., with newspapers.

Have in readiness on the table a jar of plaster-of-Paris bandages, absorbent cotton, cotton wadding, common bandages, talcum powder, a small jar each of sugar, salt, and plaster of Paris, a pitcher of warm water, and a basin deep enough to hold water sufficient to submerge the bandages as they stand on end.

The basin should be fixed and only one bandage put in at a time. The bandage should stand on end, as it is more quickly saturated this way. If the bandage remains too long in water the plaster

will change from its calcined to its hydrous form, or the plaster has "set," as it is commonly termed. It should be left in the water only until the bubbles cease to rise. Then with both hands, one grasping

Fig. 121.—Grasping plaster-of-Paris bandage.

one end and one the other, so that the bandage will retain as much as possible of the plaster of Paris (Fig. 121), a wringing motion is used to remove the

surplus water (Fig. 122). The bandage should be immediately applied.

Plenty of assistants are always necessary in applying casts. The same turns may be used in ap-

Fig. 122.—Wringing plaster-of-Paris bandage.

plying a plaster bandage as are used for the common bandage. The most commonly used turns are the circular, spiral, and figure-of-8.

Salt is sometimes used in the water to make the plaster harden more rapidly. Rubber gloves may

be used to protect the hands from the plaster, which, as it becomes "set," is rather hard to remove. Sugar or vinegar is used to help remove it from the hands.

The basin used for the emersion of bandages is lined with a piece of paper which will catch the plaster and prevent it from sticking to the bottom of the basin. The water should be carefully drained off and the paper and plaster put into the rubbish can. Never pour the water thick with plaster into the sinks or hoppers, as the plaster readily settles in bends of the pipes and may clog them.

The skin over which a plaster cast is to be applied must be clean and dry. Talcum powder dusted on to the skin just before the cast is applied will help to absorb any moisture later of perspiration.

Removal of Cast

The plaster cast is removed by means of the plaster saw, plaster knife, and the plaster shears. A weak acid, vinegar, or hydrogen peroxid can be used to soften the plaster so that it may be cut easily.

HANDKERCHIEF BANDAGES

The handkerchief bandage is a bandage made from a handkerchief or a square of any material—cotton, silk, linen, duck, or woolen—from 22 to 36 inches square.

Kinds: 1. Triangle handkerchief bandage.
2. Cravat handkerchief bandage.

The following described triangle and cravat bandages are the most used. (The First-aid Outfit of American Red Cross gives the complete number of triangle and cravat bandages.)

These bandages take their names from that part of the anatomy to which the base of the bandage is applied.

TRIANGLE HANDKERCHIEF BANDAGES

The triangle handkerchief bandage is a handkerchief or other square of material folded once in the form of a right angle.

Parts of a triangle bandage:

1. Base, the long side of the triangle.
2. Apex, the right angle of the triangle.
3. Extremities, the acute angles.

4. Inner surface, the surface next the part to be bandaged.
5. Outer surface, the surface away from the part to be bandaged.

Fronto-occipital Triangle

Place the triangle on the head so that the apex will come down over the occiput, and, with the middle of the base upon the frontal portion of the head, carry the extremities around to the back so that the base of the bandage is around the vault of the cranium. Cross at the occiput over the apex and bring the extremities around and tie in a reef-knot at the frontal portion of the head. Tuck in the ends. Bring up the apex toward the vertex until the bandage is drawn smooth, and pin with a safety-pin (Figs. 123, 124).

Use.—To give protection and to retain dressings.

Hand Triangle

Place the inner surface of the middle of the base of the triangle to the palmar surface of the wrist. Bring the apex over the dorsal surface of the hand. Fold neatly and carry the base around the wrist twice. Tie extremities with reef-knot at a point on the outer surface of the arm (Fig. 123).

Use.—To give protection and to retain dressings.

Fig. 123.—Fronto-occipital triangle: triangle of hand; triangle of one breast.

Fig. 124.—Fronto-occipital triangle: triangles of both breasts; cravat of arm.

Brachiocervical Triangle or Sling

Flex the arm to be put in the sling to a right angle. Place the triangle with the base to the hand and the apex to the elbow. Slip the triangle between the body and the arm so that a little more than half of the bandage is below the arm. Bring the bandage up over the flexed arm, around the neck to the left, if the left arm is to be put in the

sling; to the right if the right arm. Carry around to the front and tie to the shorter extremity in a reef-knot. Always have the knot well around to the front. Knots tied at the back of the neck form pressure and are uncomfortable.

Fig. 125.—Brachiocervical triangle.

Support the hand well with the base of the bandage between the wrist and the fingers.

Fold the apex of the bandage back around the arm and pin with a safety-pin. Also pin the two

thicknesses of the sling together above the hand and below the chin to keep it from slipping (Fig. 125).

Use.—To support.

Triangle of Foot

Place the triangle beneath the foot with the base at the ankle. Fold the apex up over the dorsum of

Fig. 126.—Triangle of foot.

the foot. Neatly fold the extremities over the dorsum of the foot, carry them all the way around the ankle and tie in a reef-knot in front (Figs. 126, 127).

Use.—To give protection and to retain dressings.

Fig. 127.—Triangle of foot.

Triangle of One Breast

Place the triangle with the base diagonally across the chest below the breast to be bandaged, and above the breast on the sound side. Carry the apex up over the shoulder on the affected side. Tie the extremities in a reef-knot at the back over the apex of the bandage. Then bring the apex over the top of the knot and pin (Fig. 123).

Use.—To exert pressure, to support and to retain dressings.

Triangle of Both Breasts or Thoracicoscapular Triangle

Place the triangle over the chest with its base just below the margin of both breasts. Carry the

extremities around to the back and tie in a reef-knot. Bring the apex up over one shoulder, down in the back, and tie in a reef-knot to one of the extremities (Fig. 124).

Use.—To exert pressure, to support and to retain dressings.

Triangle of Buttocks or Diaper or Sacropubic Triangle

Place the triangle over the buttocks with its base at the waist-line. Bring the apex between the

Fig. 128.—Triangle of buttocks; cravat of thigh.

thighs and up over the pubes. Carry the extremities around to the front and tie in a reef-knot over the apex. Fold the apex down over the knot and pin with a safety-pin (Fig. 128).

Use.—To retain dressings.

CRAVAT HANDKERCHIEF BANDAGE

The cravat handkerchief bandage is a triangle folded once, twice, or three times upon itself.

Cravat of Head or Occipitofrontomentovertico Cravat

Tie a simple knot with the extremities of the cravat so as to form a loop of the remaining part of the bandage (Fig. 129).

Slip the loop vertically around the head with the knot at the vertex. Separate the folds which make the knot. Carry one fold to the occiput and the other to the frontal portion of the head (Fig. 130). Make tension on the extremities until the bandage is sufficiently tight. Carry the extremities up over the vertex and tie (Fig. 131).

Use.—To give support, to exert pressure, and to retain dressings.

Fig. 129.—Simple knot in cravat.

Fig. 130.—Separating folds of the knot.

Fig. 131.—Occipitofrontomentovertico cravat.

Brachiocervical Cravat

Flex the arm to a right angle. Slip the cravat between the arm and the body with a little more than half of the bandage over the arm. Carry this extremity around the neck and down to meet the other extremity which is brought up over the arm to this point. Make a half-turn with the extremities. Carry the ends in opposite directions be-

Fig. 132.—Brachiocervical cravat.

neath the cravat, entirely around, and tie in a reef-knot in front (Fig. 132).

Use.—To give support.

Cravat of Arm

Place the cravat on the part of the arm to be bandaged. Carry the extremities around in opposite directions and tie in a reef-knot at a point in front, or so that the knot will not come over the injury (Fig. 124).

Use.—To exert pressure and to retain dressings.

Cravat of Thigh

Place the cravat on the part of the thigh to be bandaged. Carry the extremities around in opposite directions and tie in a reef-knot at a point in front or so that the knot will not come over the injury (Fig. 128).

Use.—To exert pressure and to retain dressings.

TAILED BANDAGES OR BINDERS

The tailed bandage or binder is best made of a heavy muslin, preferably unbleached.

Kinds: Four-tailed bandage.

T-bandage or **T**-binder.

Double-tailed **T**-bandage or Double-tailed **T**-binder.

Y-bandage or **Y**-binder.

V-bandage or **V**-binder.

Scultetus bandage or scultetus binder.

Straight abdominal bandage or straight abdominal binder.

Fitted breast bandage or fitted breast binder (Fig. 133).

FOUR-TAILED BANDAGE

The four-tailed bandage is a strip of bandage 24 to 30 inches long and 4 to 8 inches wide that is split at each end to within 3 or 4 inches of the center (Fig. 133, *a*).

Use.—To retain dressings, to exert pressure, and to support the breast, chin, forehead, parietal portion, eye, or ear.

Fig. 133.—A, Four-tailed bandage; B, T-binder; C, double tailed T-bandage; D, Y-bandage or binder; E, V-binder; F, Scultetus' binder; G, straight abdominal binder; H, fitted breast binder.

Four-tailed Bandage of Chin

Place the center of the bandage under the chin. Bring the two lower tails up vertically around the head and tie at the vertex. Take the two upper

Fig. 134.—Four-tailed bandage of chin.

tails and carry around beneath the ears to the occiput and tie (Fig. 134).

Use.—To retain dressings and to support and to exert pressure.

T-BANDAGE OR T-BINDER

The **T**-bandage can be made of roller bandage or other material about 4 inches in width. It is made of two pieces sewn together at right angles so that they form a **T** (Fig. 133, *b*).

To Apply T-Bandage or T-Binder

Bring the horizontal strip around the body of the patient and fasten in front, carry the tail or vertical piece between the thighs, up in front, and

Fig. 135.—T-bandage or T-binder.

fasten to the horizontal strip. (Toward the side if a male patient.) The binder is more comfortable with safety-pins than tied.

Always pin the vertical piece with two pins. When pinned with one pin the tail-piece has a tendency to "cut" the patient, and it will not hold dressings in place so well (Fig. 135).

Use.—To retain dressings to perineum, anal region, or vulva. (May be used as a breast bandage where horizontal strip is made wider.)

DOUBLE TAILED T-BANDAGE

The double tailed **T**-bandage is a bandage having two tails or vertical strips (Fig. 133, *c*).

Use.—To retain dressings to perineum, anal region, or vulva. (May be used as a breast bandage where horizontal strip is made wider.)

Y-BANDAGE OR Y-BINDER

The **Y**-bandage or **Y**-binder is a bandage that is **Y**-shaped (Fig. 133, *d*).

Parts of a **Y**-bandage:

Stem, the larger part or stem of the **Y**.

Extremities, the two upper divisions of the **Y**.

To Apply Y-Bandage of the Breasts

Roll the stem of the **Y**. This makes the bandage easier to handle to slip beneath the patient. Place the bandage beneath the patient with the stem of

the **Y** transversely beneath the patient's back in the dorsal region. Carry the extremities of the bandage around and transversely across the chest, one extremity covering the upper margins of the breasts, the other extremity covering the lower margins of the breasts. Pin the extremities to the stem of the **Y**.

Use.—To give support to breasts where a constant support is necessary, as this need not be taken off at nursing time or for the pumping of the breasts.

V-BANDAGE OR V-BINDER

The **V**-bandage is a **T**-bandage with the tail-piece in the form of two **V**'s joined together (Fig. 133, *e*).

Fig. 136.—V-bandage or V-binder.

To Apply V-Bandage

Apply the **V**-bandage in the same manner as the **T**-bandage (Fig. 136).

Use.—To retain dressings to perineum, anal region, or vulva.

SCULTETUS OR MANY-TAILED BINDER

Six strips of roller bandage or other material 4 inches wide and $1\frac{1}{2}$ yards long are spread out smoothly upon a table so that they will overlap one another one-half of their width. They are then stitched together at their middle quarter, and one or two tails are stitched on in **T** fashion (Fig. 133, *f*).

To Apply Scultetus Binder

The free ends are rolled into a compact roll that can be slipped beneath the patient. The tails are then unrolled and the two uppermost tails carried across the upper portion of the abdomen, each tail in opposite directions, the one overlapping the preceding and holding it in place. The remainder of the tails are similarly applied and all are held in place by two rows of safety-pins, one on each side of the abdomen.

The **T** piece or pieces are then brought up be-

tween the thighs, protected by a small dressing to avoid chafing and soiling, and pinned at the center with two pins, or at the side if a male patient (Fig. 137).

Fig. 137.—Scultetus binder.

Use.—To support, to exert pressure, and to retain dressings for abdomen or breast.

STRAIGHT ABDOMINAL BINDER

The straight abdominal binder consists of a double thickness of material 12 inches wide by 40 inches long (Fig. 133, *g*).

To Apply Abdominal Binder

Pin one or two **T** pieces to the middle of one side. Roll each end of the binder to the center. Place

the rolled binder beneath the patient and unroll the ends. Bring the ends up around the body and turn in the corners enough to make the binder conform with the shape of the body. Turn the lower corners, which come down over the pubes, back far enough so that it makes the binder straight across the pubes, and turn the upper corners back

Fig. 138.—Straight abdominal binder.

so that the folded edge of the binder will come together evenly and lap to pin. If this binder is used for pressure, pins must be very close together, in fact, must overlap. Bring the T piece or pieces through between the thighs and pin at the front, one T piece with two pins, two T pieces with three pins (Fig. 138).

Use.—To support, to exert pressure, and to retain dressings.

FITTED BREAST BINDER

The fitted breast binder is a binder made in a manner to conform to the shape of the body (Fig. 133, *h*).

To Apply Fitted Breast Binder

Slip the binder beneath the patient. Support the breasts one at a time and bring the fronts of the binder up over the breasts. Instruct the patient

Fig. 139.—Fitted breast binder.

to support each breast by placing a hand at each side at the outer margin of the breasts, and, holding them in this position, bring the fronts together and pin. For an even pressure have pins come together and overlap (Fig. 139).

Use.—To give protection, to support and to exert pressure, and to retain dressings.

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